



Worksheet 6: Storage devices

Task 1

- Look up some facts and figures about hard disks and solid state drives.

	Hard disk	SSD
Capacity	Up to 6TB	128GB to 2TB
Cost	3TB internal for £85	128GB for £40 960GB for £200
Access speed	3Gb/s	6Gb/s <i>(faster than magnetic disk because no moving parts)</i>
Durability	Good durability when disk not in use but vulnerable to movement when spinning. Can write to the disk an infinite number of times. Affected by heat and magnetic fields	More robust than hard disks with moving parts. Said to be 5-10 times more durable than a hard disk drive
Typical use	Inside a PC, or as file servers and large scale Cloud storage facilities	Notebooks, tablets, slim laptops, PCs
Other information		



2. What type of storage device does a digital camera have? Why is it suitable?

Look up some typical capacities and prices for digital camera storage.

SDHC (Secure Digital High Capacity) memory cards, in Jan 2016 max capacity was 32Gb.

Compact Flash memory cards are another type of solid state device.

Prices range from £5 to £450 depending on type, capacity, speed, reliability etc.

3. What do RAM and ROM stand for?

Random Access Memory and Read only memory

Explain what is meant by the sentences below:

- (a) RAM is volatile

loses its content when computer is switched off

- (b) ROM is non-volatile

Does not lose content when machine is switched off

A washing machine has a program in memory. Is it held in RAM or ROM?
Explain.

It is held in ROM, as it needs to be permanently loaded and it will never be changed.

4. What is virtual storage? When is it used? Can a user access it?

It's an area on the HDD or SSD which is used as an extension of memory. It is used when RAM is full or nearly full. Data or instructions held in RAM but not currently being used are copied from RAM to virtual storage and held there until needed. Then, when those instructions/data are needed, something else is swapped out of RAM to virtual storage and the needed data put back into RAM.